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Addressing the Challenges of Supplying People with Daily Consumer Goods in Rural Areas

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Abstract

The project “Active Ageing” identified several difficulties and challenges of proper goods supply in rural areas. In this paper we present the follow-up project “GreisslerPLUS”, which tries to overcome the difficulties of a proper supply of daily goods in rural areas. The trend of daily good supply is heading towards larger grocery companies which are mostly located in areas settling larger communities. Such grocery companies often provide a wider range of goods, they have higher budgets for advertising, and they are mostly able to offer similar goods with lower prices. As a consequence, local suppliers cannot keep up with those offers and, therefore, they have difficulties to survive. In particular, elder and less mobile people suffer from this situation. Because of longer transport distances they need to ask others for help. Thus, they will lose their opportunity to care for themselves. The project GreisslerPLUS intends to counter this trend and to find solutions. We describe the survey about daily consumer habits in the area “Schneebergland” and explain models we designed based on the survey evaluation.

Keywords: supply of daily goods; rural areas; ICT services; reducing transport routes.

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Nomenclature

FFG Austrian Research Promotion Agency

1. Introduction

The trend of daily good supply is heading towards larger grocery companies which are mostly located in areas settling larger communities. Such grocery companies often provide a wider range of goods, they have higher budgets for advertising, and they are mostly able to offer similar goods with lower prices. So, people who have easy access to individual transportation modes tendentially buy their goods of daily use in shops of such companies. As a consequence, local suppliers cannot keep up with those offers and, therefore, they have difficulties to survive. In particular elder and less mobile persons suffer from this situation. Both, the lack of proper supply as well as the lack of social interactions and communication are crucial problems. Additionally, longer transport distances force older and disabled people to ask others for help. Thus, they will lose their opportunity to care for themselves and to live independently.

The project GreisslerPLUS (funded by the FFG) focuses on the region “Kleinregion Schneebergland” which is located in Lower Austria. First results from a former project “Active Ageing” identified general difficulties and challenges and came up with a first idea of an ICT platform to support local suppliers and residents. To cover all needs, we have planned and conducted four workshops. The first workshop addressed local suppliers and the second workshop was dedicated to the residents. The main goal of all workshops was to identify requirements, all proper circumstances, and conceivable IT support and services. Functional requirement will cover the potential scope of the IT support. From a technical point of view, we have to find out the level of IT knowledge along with the capabilities of how to interact with IT services. A closer look at the usability will be a crucial factor of success. For this, user-driven development forms the basis for the implementation of the first test system. After that, we will have to select proper probands for evaluating the test system and to do a re-design for the working prototype.

2. Methodology

To understand the needs of suppliers and customer, we carried out workshops for both target groups. Additionally, residents of the area were asked to answer questions about their shopping behaviour and about their specific preferences and needs. For answering the questionnaire, firstly, people of the area were interviewed individually and secondly, we addressed residents by broadcasting a link to an online survey. The main reason for conducting personal interviews was the possibility to reach a larger amount of persons. The interview consisted of the same questions as the online survey. Interview responses were manually inserted in the online tool and both sets of responses were merged to allow an easy evaluation. The exploratory character of the study aims to find out possible models to be implemented to support suppliers and residents in their specific needs.

2.1. The Workshops

The first workshop was held with local producers of the region to discover their needs concerning their companies. 21 producers from different companies and organizations followed the invitation and dealt intensively with the maintenance of local supplies in the region. The second workshop was held with 52 local residents and consumers.

2.2. The Survey

The survey was carried out online using the open source software tool LimeSurvey[†] as well as paper-based to reach as many residents as possible. The online survey has been distributed using the GreisslerPLUS Web site[‡],

[†] <http://www.limesurvey.org>

[‡] <https://www.greissler.plus/>

Social Media, and personal contacts as well as via the established Web-based newsletter of the project Web site to reach already interested companies, local producers and former workshop participants.

The survey consisted of 33 questions which aimed to determine the shopping behaviour of the surveyed people. In addition, we asked questions about the place of residence, the number of people living in the household and other demographic data. Are there some persons who help others with their shopping needs, who e.g. do not live in the same household? We asked how often they buy and how much time they spend on buying groceries per week, which means of transport they use and if they would consider buying them online. Furthermore, we asked which and how many different shops they visit and whether they seek for regional products or not.

3. Results

With our survey we reached a limited amount of persons. It must be mentioned that the results fit to those people who were interested in development of their area. Results are not representative for the whole population in the area “Schneebergland”.

In the workshops local producers clearly pointed out that they stand for local production and Austrian quality. They want to link a face to the product to create trust and loyalty to their customers. Others mentioned that the correct scaling is an important aspect to them, which means that better quality is more important than higher quantity. From their point of view, people want to know in detail what is inside their food. They think that only regional producers can provide this information honestly and trustable.

Similar to the first workshop consumers also clearly became aware of regional products and Austrian quality. At the same time, however, it was criticized that the availability of these products is currently too low. If consumers want to cover most of their purchases with local products, they have to visit several shops and sales outlets at varying business hours. This effort, including longer travel times, is only taken in account by a few people. Therefore, consumers want a common approach by local providers and better information on opening times and offers.

The survey yielded 227 responses with people coming from 15 out of 18 municipalities which are part of the region “Schneebergland”. The average age of respondents is 38.12 years (having a median of 38 and a standard deviation of 8.4), while 50 percent of them are between 34 and 42 years old. The average number of people living in the household is 4.11 (having a median of 4 and standard deviation of 1.02).

The surveyed were asked how often they buy groceries per week. Fig. 1 shows the share of the responses, which clearly shows, that the majority of nearly 75 percent buy groceries several times per week.

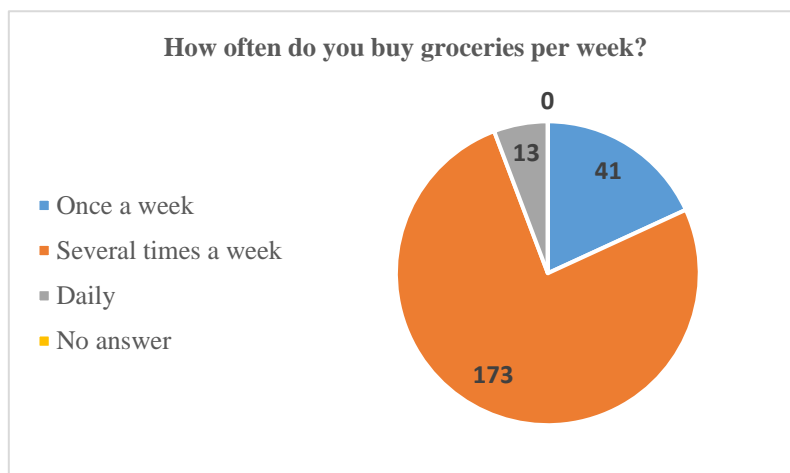


Fig. 1 Share of the responses on how often the surveyed buy groceries per week

The following figure shows the means of transport which is mainly used by the surveyed for buying groceries. For this question, it was possible to respond multiple answers. However, 200 of 294 responses indicated, that the car is the main vehicle to buy groceries.

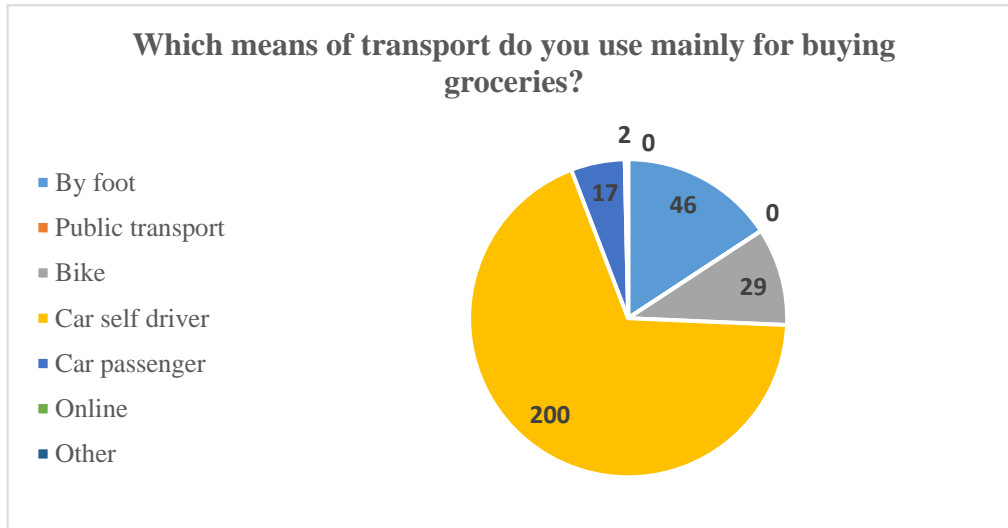


Fig. 2 Visited stores (multiple answers were possible)

Almost 90 percent stated that they do not buy groceries for people who live outside their own household. The remaining 13 buy groceries for their parents, parents in law, siblings, neighbours, and other relatives. Furthermore, the surveyed were asked to declare how much time they spend on buying groceries. The responses to this question show, that 73 percent spend one to two hours per week. The survey also pointed out, that it is important to 77 percent of respondents to buy regional products and that they are willing to pay a higher price in retail. 79 percent would like to have more information on regional products and where to buy them while 85 percent of all surveyed want to buy their goods of daily use at one place.

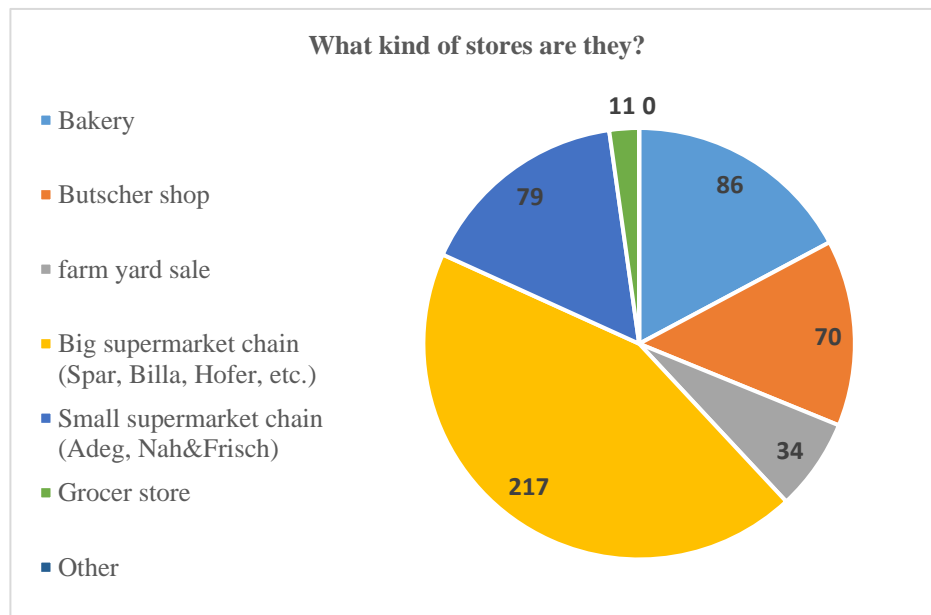


Fig. 3 Visited stores (multiple answers were possible)

Additionally, the survey revealed, that more than 75 percent of the surveyed would consider buying groceries online. 40 percent would buy all of the online and 35 percent would buy certain products via online services.

These certain products were cereal and dairy products like bread, flour, noodles and milk. Products like fruits, vegetables, meat and eggs were also mentioned to be considered.



Fig. 4 Number of stores

22 percent indicated that they would not buy groceries online. The reasons were mainly, that they want to see the products and get in touch with the vendors.

At the end of the survey we also asked for additional suggestions. Some of the surveyed stated, that phone orders would be a possible option and that we should support organic products. Other recommendations were about integrating functions for displaying all regional producers and their opening hours in a map.

4. Models and functional requirements

Based on the evaluation of our survey we defined five models to become possible candidates for the testing platform. Each model differs in their specific process steps to provide people with daily goods.

4.1. Model 1: Delivery service home

In Model 1, the orders placed by consumers are collected from a central office. This office bundles and forwards the orders to the producers. These producers receive all the orders that are relevant to them and prepare separate packages for each consumer with those products that have been ordered from them. For example, if customer A orders from three different producers (e. g. butcher's shop, bakery and grocery store), each of these three producers provides a separate package for customer A. All packages are then collected in an arranged and organized rhythm with a delivery van and delivered to the consumers. In this example, customer A receives three packages from different producers. This process is demonstrated in Fig. 5 and Fig 6.

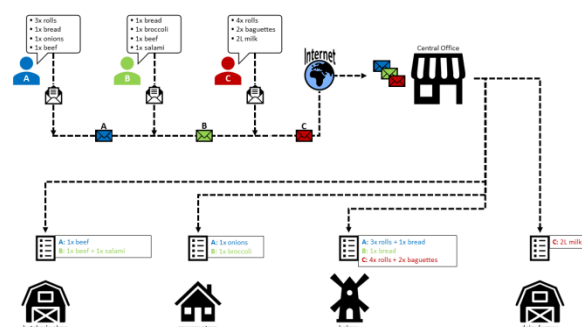


Fig. 5 Ordering

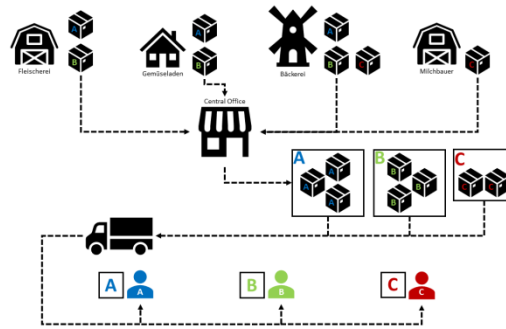


Fig. 6 Delivering

4.2. Model 2: Company as a pick-up location

In Model 2, consumers can also select a pick-up station where their orders are to be deposited. The orders are collected and bundled in an analogous way to Model 1 and forwarded to the individual producers. These producers prepare separate packages for each consumer and deliver them to the appropriate pick-up station. After the delivery, consumers are informed that their order is ready for collection. For example, innkeepers with appropriate storage facilities could act as such pick-up stations.

4.3. Model 3: Pure platform model

Model 3 was developed in two variants. In both variants, all processes are handled via the Web-platform. Producers receive their orders automatically via the platform. Similar to Model 1 and Model 2, orders are prepared in consumer-specific packages. In variant 1, the packages are delivered by the producers themselves. In variant 2, a delivery service is organized for delivery.

4.4. Model 4: Food Coops

In Model 4, the ordered products are taken to so-called “food-coop stations”. After delivery, the consumers are informed about it. The uniqueness of these stations lies in the fact that customers have their own access to these stations in order to pick up their ordered products themselves. The advantage of this model is that orders can be picked up independently of any opening hours.

4.5. Model 5: Rolling Greissler

The “Rolling Greissler” is a traveling supplier, which has fixed locations which are visited in certain timeframes. In these periods, consumers can also shop without a placed order. Orders are placed via the platform and are packed into specific packages by the traveling supplier and transported on the journey. These packages can be picked up by consumers in the defined time frames from the respective locations. The “Rolling Greissler” thus offers the possibility to purchase additional products.

5. Conclusion and Outlook

We organized workshops and a questionnaire to get a deeper understanding of shopping behaviour of people in the region “Schneebergland”. Based on the results of the workshops and the survey we define five models and functional requirements for a Web-based platform to support supplier and residents in their selling and shopping needs. Within the next weeks we will find and determine producers and consumers as testing persons to support the project by committing themselves to use the platform in the testing phase. This testing phase will provide us with additional insights and lessons learned in order to optimize the platform for a potential commercial use in the future.

Acknowledgements



6. References

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